MEETING MINUTES

Subject: Expedited Response Action Weekly Interface

TO: Distribution BUILDING: 740 Stevens Center

FROM: W. L. Johnson CHAIRMAN: G. C. Henckel

Dept-Operation-Component	Area	Shift	Meeting Dates	Number Attending
Environmental Engineering	RCHN	Day	July 19, 1993	17

Distribution

State of Washington Department of Ecology
J. Donnelly*
G. Freedman*
L. Goldstein
D. Goswami*
R. L. Hibbard
D. Holland*
J. Phillips
D. D. Teel
N. Uziemblo
J. Yokel
T. Wooley*

U.S. Army Corps of Engineers
Walter Perro* A3-61

U.S. Department of Energy
H. L. Chapman A5-19
J. K. Erickson A5-19
B. L. Foley A5-19
E. D. Goller A5-19
G. Goldberg*
R. G. McLeod A5-19
D. E. Olson* A5-19
P. M. Pak* A5-19
R. K. Stewart A5-19

U.S. Environmental Protection Agency
P. R. Beaver B5-01
D. R. Einan
D. A. Faulk*
L. E. Gadbois*
P. S. Innis*
D. R. Sherwood*

Westinghouse Hanford Company
L. D. Arnold B2-35
M. V. Berriochoa B3-30
S. L. Bradley* G1-20
H. D. Downey H6-27
W. F. Heine B3-63
G. C. Henckel* H6-04
W. L. Johnson H6-04
J. K. Patterson H6-27
V. J. Rohay* H6-06
P. J. Valcich* H6-04
T. M. Wintczak H6-27
EDMC H6-08
ERAG Route H6-04
GCH File

*Attendees

The weekly interface meetings on the expedited response actions (ERAs) was held to status the ERAs for the U.S. Department of Energy, Richland Operations Office, the U.S. Environmental Protection Agency, and the State of Washington Department of Ecology. The meeting was conducted in accordance with the attached agenda.

Attachments:
1. Agenda
2. Action Item List
3. Decisions, Agreements & Commitments
4. Expedited Response Action Weekly Reports, week ending 07/16/93

WEEKLY ERA INTERFACE AGENDA

SUBJECT: STATUS OF THE EXPEDITED RESPONSE ACTIONS

DATE: July 19, 1993

- GENERAL ISSUES
  - ERA Interface Action Item Review
- INDIVIDUAL PROJECT STATUS
  - Riverland
    o Status of Field Activities
  - Sodium Dichromate
    o Waste Disposal, results are back, disposal is scheduled 7/26/93
  - Pickling Acid Crib
    o ERA Proposal out for Public Review
  - N-Springs
    o Draft Proposal Status
  - North Slope
    o Revising Proposal
  - 200-W Carbon Tetrachloride
    o Operational Readiness Issues
  - 618-11
    o Draft EE/CA is ongoing
- OTHER ISSUES
- SUMMARY OF ACTION ITEMS
- SIGN-OFF ON ANY DECISIONS, AGREEMENTS, OR COMMITMENTS

EXPEDITED RESPONSE ACTION INTERFACE MEETING

-ACTION ITEMS-
July 19, 1993

ORGANIZATION	ACTION ITEM
WHC	Supply information on Riverland for EPA to provide to Washington Department of Health.
WHC	Provide date for final Sodium Dichromate Report.

EXPEDITED RESPONSE ACTION INTERFACE MEETING

-DECISIONS, AGREEMENTS, & COMMITMENTS-
July ~~16~~ 17, 1993

DECISIONS:

AGREEMENTS: No significant Actions

COMMITMENTS:

RL Representative

EPA Representative

Ecology Representative

WHC Representative

THIS PAGE INTENTIONALLY
LEFT BLANK

Weekly Report, Period Ending July 16, 1993
EXPEDITED RESPONSE ACTIONS
Technical and Management Contact - Wayne L. Johnson, 376-1721
Environmental Division

North Slope Expedited Response Action - The North Slope ERA Proposal is being reviewed by DOE, EPA, and Ecology. A meeting to discuss regulator's concerns on the cost estimate was held on Friday, July 16, 1993.

N-Springs Expedited Response Action - A meeting was held to disposition comments on the N-Springs ERA Proposal July 14, 1993. WHC is still awaiting RL's final decision regarding submitting the document to the regulators.

618-11 Burial Ground Expedited Response Action - The draft 618-11 Burial Ground Proposal is being finalized to include comments on the first five sections.

White Bluffs Pickling Acid Crib Expedited Response Action - The White Bluffs Pickling Acid Crib ERA Proposal is undergoing concurrent DOE, EPA, Ecology and public review.

Riverland Expedited Response Action - The cleanup activities continue with sand blasting of the concrete initiated on July 15, 1993.

Sodium Dichromate Expedited Response Action - The barrels of waste are scheduled to be shipped July 26, 1993.

200 West Area Carbon Tetrachloride Expedited Response Action -

Surveillances:

A surveillance conducted by WHC Quality Assurance on June 28, 1993 verified that the overheated granular activated carbon (GAC) and liquid sampling was performed in compliance with the requirements of the sampling plan. The activity was found to be satisfactory, and no response is required.

An internal surveillance by Environmental Field Services of the lock and tag procedures at the three vapor extraction systems was conducted June 23, 1993. No irregularities were found; the surveillance was satisfactory and is considered closed.

Two internal surveillances by Environmental Field Services were conducted May 21, 1993, at wells 299-W15-219 and 299-W18-252 to examine drill site health monitoring practices and hazardous waste site entry requirements. There were no findings -- monitoring is being conducted according to provisions of EII 2.2 and the HWOP, and all personnel training and medical documentation was on hand and complete -- and no responses are required.

Vapor Extraction System (VES) Operations:

Status of Operations: All three vapor extraction systems at the 200 West Area carbon tetrachloride ERA have been shut down as a result of the overheating of the primary granular activated carbon (GAC) canister at the 1500 cfm unit that occurred on June 3, 1993. The systems have

at the 1500 cfm unit that occurred on June 3, 1993. The systems have been locked and tagged to prevent extraction operations until the approval to proceed is received through the restart process. During the restart process the VES systems will be temporarily operated on ambient air to perform limited testing of the units and facilitate waste handling of the impacted GAC canister. During this time there will be no extraction of carbon tetrachloride from the wellfield.

Anticipated Restart: A draft letter, Justification for Continued Operation at 216-Z-1A/Z-18, was completed July 14, 1993. A presentation to brief WHC environmental, safety, and quality assurance management on the restart strategy was held July 16, 1993. Contingent upon the approval of the letter, restart of the 1,000 cfm VES at the Z-1A/Z-18 ERA site is scheduled to begin in early August. Restart of operations at Z-9 is anticipated by the end of August.

Restart Actions Completed: The complete restart strategy, with status as of July 15, 1993, is attached. Major actions completed since June 3, 1993 include:

- 24-hour initial Off Normal Occurrence Report submitted	6/4/93
- occurrence entered into Quality, Environmental, Safety Tracking (QUEST) database	6/15/93
- 10-day Off Normal Occurrence Report submitted	6/17/93
- Initial Background Summary Report completed	6/14/93
- Revised Background Summary Report completed includes Occurrence Report; Hanford Fire Dept. Report; General Specifications and Properties of GAC; VES Operational Data; Notes of Discussions with GAC vendors and experts, with Savannah River personnel, and with EPA contact.	7/2/93
- Initial References Report completed	7/12/93
- Initial Heat Balance Scenario completed	6/18/93
- Revised Heat Balance Scenario completed	6/30/93
- Initial Phosgene Analysis completed	7/7/93
- GAC sampling completed	6/27/93
- GAC water sampling completed	6/27/93
- GAC analysis by Envirotrol completed	7/2/93
- Initial Summary Analysis Report completed	6/18/93
- Updated Initial Summary Analysis Report completed	6/24/93
- Priority Planning Grid risk value determined	6/12/93
- Root cause analysis interviews completed	6/28/93
- Root Cause analysis final report completed	7/15/93
- Unreviewed Safety Question evaluation completed	6/16/93
- Hazards evaluation completed	6/24/93

- Accident credibility determination completed 6/24/93

- Basis for Justification for Continued Operation at Z-1A/Z-18 determined 7/6/93
- Draft Justification for Continued Operation at 216-Z-1A/Z-18 completed 7/14/93

- Initial GAC thermocouple testing completed

Activities Planned for Next Week: Additional testing of the GAC canister thermocouple tree is planned. The test, as envisioned, would be similar to the first test, but over a longer period allowing the temperatures to reach steady state. Additionally, the inlet flow and inlet and exit humidity will be monitored continuously. Use of thermocouples to monitor the GAC temperatures is still being considered as a corrective action, but in conjunction with other types of monitors.

A test of GAC ignition has been discussed with the Plutonium Process Support Laboratory. The test involves thermogravimetric/calorimetric testing of virgin GAC and GAC loaded with carbon tetrachloride.

The revised Summary Analysis Report: GAC Overheating Incident will be completed July 21, 1993. This report includes the heat transfer calculations, consequence and accident scenarios, shutdown analysis, phosgene analysis, and GAC canister and well analyses.

A site visit by a leading GAC expert, Dr. Hari Murty, Superior Adsorbents, Inc., is planned for July 21-23, 1993.

Overheated GAC: A sample of the overheated/water-cooled GAC was collected June 28, 1993, and sent to Envirotrol to determine whether this GAC can be regenerated under the existing contract with Envirotrol. Envirotrol reported that the GAC sample appeared to be entirely normal, both physically and chemically. They test it for properties such as hardness, density, and activity.

GAC Strategy: On June 7, 1993, the ERA project team decided to ship all the GACs that are currently available in the "one-time" shipment to Envirotrol.

1500 cfm VES Jack Installation - Fleet Management has completed installation of the new jacks. The old jacks, however, were not removed. This has become a point of contention with the vendor Barnebey & Sutcliffe since they specifically requested that they old jacks be removed so that they could be returned to the vendor of the trailer.

Power Installation at Z-9 - The Davis-Bacon Act review for the installation of power at Z-9 was concluded to be non-applicable. This means that WHC will be doing the work, anticipated July 26-28, 1993.

Baseline Monitoring

Monitoring on July 9, 1993, during a period of somewhat low pressure (29.0 in of Hg) revealed more wellhead detections than usual. Ten wellheads (maximum 144 ppm at 299-W15-85) and sixteen soil gas probes (maximum 101 ppm at SG 15-6) had VOC detections.

On July 13, 1993, with barometric pressure indicating 29.2 in. Hg there were very few VOC detections. Three soil gas probes (maximum 153 ppm at SG 15-6) and three wells (maximum 239 ppm at 299-W15-95) had VOC detections.

Monitoring at the cone penetrometer test field west of Z-1A indicated uniformly higher VOC detections on July 13, 1993, (29.0 in of Hg). The monitoring on July 9, 1993, fell within a period of least favorable VOC emissions as predicted by Quadrel. July 13, 1993, did not fall within either (most or least favorable) predictive modeling period.

Wellfield Design

Drilling of vapor extraction well 299-W15-219, northwest of 216-Z-9, began April 26, 1993, and reached total depth May 25, 1993. This well is currently being completed with two screened intervals. The well should be completed by July 16, 1993.

Drilling of vapor extraction well 299-W15-220 east of 216-Z-9 began June 2, 1993, As of July 15, 1993, the depth was 175 ft; total depth is anticipated July 21, 1993. Analysis of SEAMIST samples collected at 160 ft. depth indicated carbon tetrachloride concentration of 108.356 ppm, chloroform at 1.305 ppm; 12 DCA at 0.022 ppm, and an unknown at 0.045 ppm.

Drilling of vapor extraction well 299-W18-252, midway between 216-Z-1A and 216-Z-12, began May 3, 1993. As of June 11, 1993, total depth (228 ft) had been reached and groundwater sampling had been completed. This well will be completed after well 299-W15-219 is completed.

The sonic drilling rig is expected to be at the carbon tetrachloride site by mid August. It will be used to drill two vertical vapor extraction wells near the 216-Z-9 trench and one angled vapor extraction well under the parking lot north of the 216-Z-9 trench. Testing will begin July 19, 1993, at the Becker test site.

Cone penetrometer (CPT) well installation began May 3, 1993, in the vicinity of the three disposal sites by Applied Research Associates (ARA). The ARA field crew was gone June 3, 1993, to July 7, 1993. The following wells have been installed since field work resumed July 8, 1993:

> CPT-4 to 104 ft; CPT-10 to 107 ft; CPT-2 to 46 ft; CPT-3 to 51 ft; CPT-5 to 48 ft; CPT-8 to 47 ft; CPT-12 to 113 ft.; CPT-11 to 77 ft.

CPT-6 reached only 35 ft. and was not installed. An additional four extraction well locations and 12 buried tubing well locations were staked July 14, 1993.

A soil gas pressure monitoring station has been installed on the buried tubing well installed using the cone penetrometer north of 216-Z-9 (location CPT-9). Downhole pressure is continuously monitored at depths of 60, 70, and 91 ft. Pressure data are recorded at five minute intervals at depths of 25, 59, 75, and 91 ft in CPT-4a, a buried tubing well. Another set of pressure gauges are installed at well 299-W18-247 in a sealed well test configuration.

Differential pressure gauges are being installed on wells in the 216-Z-1A tile field to measure barometric pressure effects while the active vapor extraction system is not operating.

Data collection continues at the wellhead monitoring systems installed on wells 299-W18-6, W18-7, W18-249, and W18-246 (one system on each of two screened intervals). The wells are instrumented to measure temperatures, wind speed, pressure, humidity, and air flow, and to record these measurements on a data logger. In addition, a chemical sensor (B&K 1301) is used to collect carbon tetrachloride concentration data at well 299-W18-6 full time while the vapor extraction systems are shut down.

The monitoring stations at wells W15-218 and W18-248 were removed to allow access for the downhole Portable Acoustic Wave Sensor (PAWS) testing.

One wellhead monitoring system was shipped July 12, 1993, to Joe Rossabi at Savannah River to allow comparable measurements to be made at a different site.

Testing of the flows and vacuums on the HEPA Vac Characterization Unit using ambient air was conducted July 15, 1993.

Source Term Characterization

A letter report, "Z Plant Contribution to Secondary Carbon Tetrachloride Concentration Maximum in Groundwater under 200 West Area," was completed June 28, 1993 by Craig Barrington. The following is a brief summary:

After discharge to cribs ceased in May 1973, all of the liquid waste discharged (through pipes) from PRF was aqueous and was sent to the 242-T evaporator. Most of this aqueous waste was saturated with carbon tetrachloride. The solvent phase was recycled within PRF or loaded out in drums; it was not discharged. The aqueous wastes were sent to the 242-T evaporator until 1976. Essentially, all of the dissolved carbon tetrachloride transferred from Z Plant to 242-T for evaporation from May 1973 to April 1976 would have been discharged to the 216-T-19 crib in evaporator condensate. The amount of carbon tetrachloride in the waste sent to the 242-T evaporator is conservatively estimated as 3900 lbs or 1.8 metric tons. The 216-T-19 crib is on the south end of the TX tank farm.

Soil Gas Surveys

Preparations continue for upcoming passive soil gas sampling using Quadrel Service's EMFLUX technology scheduled for mid-July. A field plan was completed July 7, 1993. Sample locations will focus on the 216-Z-9 area; the FY 92 locations will be re-occupied. The sampling dates are: July 21, 1993, to July 24, 1993 (least favorable time, according to Quadrel's model); and July 28, 1993, to July 31, 1993 (most favorable).

200 WEST AREA CCL4 VAPOR EXTRACTION ERA
RESTART STRATEGY
Rev. 7/15/93 COB

STATUS OF OPERATIONS

All three vapor extraction systems have been locked and tagged to prevent operations until the approval to proceed is received through the restart process.

During the restart process the VES systems will be temporarily operated on ambient air to perform limited testing of the units and facilitate waste handling of the impacted GAC canister. During this time there will be no extraction of carbon tetrachloride from the wellfield.

ACTION	TARGET DATE	ASSIGNEE	STATUS
1. OFF NORMAL OCCURRENCE REPORTING		Hagood	
o 24-hour initial occurrence	6/4/93	Hagood	Complete
o QUEST database entry	6/15/93	Hagood	Complete
o 10-day report	6/17/93	Hagood	Complete
o Final occurrence reporting	7/18/93	Hagood	
2. INCIDENT ANALYSIS		Rohay	
o gather background information			
- interview lead engineer	6/8/93	Johnson/Dippre	Complete
- review procurement files	6/8/93	Dippre	Complete
- discussions with vendors/consultants	7/2/93	Dippre	Complete
- SRS event			
collect/analyze data	6/11/93	Dippre	Complete
followup with SRS	7/2/93	Dippre	Complete
- review INEL safety analysis	7/23/93	Rohay	
- confer with EPA contact	7/2/93	Cameron	Complete
- hydrocarbon/ketone char. - wells			
sampling	6/14/93	Swett	Complete
inorganic/methane analysis at PNL	6/16/93	Bartley	Complete
organic analysis at HEHF	6/18/93	Bartley	Complete
- hydrocarbon/ketone char. - GACs (primary overheated GAC secondary GAC behind overheated GAC uninvolved saturated GAC)			
Sampling Analysis Form to HASM	6/18/93	Havenor	Complete
Sampling Analysis Form Finalized	6/22/93	Havenor	Complete
Job Hazard Analysis for airdry	6/21/93	Gale	Complete
Air dry GAC	6/26/93	Gale	Complete
Sampling	6/27/93	Gale	Complete
inorganic/methane analysis at PNL	7/21/93	Swett	
organic analysis at HEHF	7/21/93	Swett	
- obtain fireman's report	6/8/93	Gale	Complete
- provide references report	7/12/93	Dippre	Complete
- provide background summary report			

Rev. 0	6/14/93	Dippre	Complete
Rev. 1	7/9/93	Dippre	Complete
o analyze cause of occurrence			
- heat balance scenarios			
Rev. 0	6/18/93	Dengler	Complete
Rev. 0 update	6/25/93	Dengler	Complete
Rev. 1	6/30/93	Dengler	Complete
Rev. 2	7/23/93	Dengler	
- shutdown analysis	TBD	Gale/Tuttle	
- phosgene analysis			
Rev. 0	7/7/93	Prinzing	Complete
Rev. 1	TBD	Prinzing	
- thermogravimetric/calorimetric analysis	7/30/93	Peters	
- Consult with GAC expert			
onsite visit by expert	7/21-23/93	Cameron	
recommendation report by expert	7/30/93	Cameron	
- GAC physical and chemical props.			
primary GAC center and margin samples			
Sampling Analysis Form to HASM	6/18/93	Havenor	Complete
Sampling Analysis Form Finalized	6/22/93	Havenor	Complete
Job Hazard Analysis for airdry	6/21/93	Gale	Complete
Air dry GAC	6/26/93	Gale	Complete
Sampling	6/27/93	Gale	Complete
inorganic/methane analysis at PNL	7/21/93	Swett	
organic analysis at HEHF	7/21/93	Swett	
- GAC analysis at Envirotrol			
sample received at Envirotrol	6/29/93	Gale	Complete
analysis by Envirotrol	7/2/93	Dippre	
- GAC water analysis			
Sampling Analysis Form to HASM	6/18/93	Havenor	Complete
Sampling Analysis Form Finalized	6/22/93	Havenor	Complete
Sampling	6/27/93	Havenor	Complete
Analysis	7/21/93	Swett	
- GAC drummed water			
Treatment Plan to Indep. Safety	6/22/93	Havenor	Complete
Treatment	TBD	Gale	
- coupon testing for GAC canister corros.			
coupons received	7/8/93	Cameron	Complete
testing completed		Cameron	
- provide summary analysis report			
Rev. 0	6/18/93	Dippre	Complete
Rev. 0 update	6/24/93	Dippre	Complete
Rev. 1	7/21/93	Dippre	
o Priority Planning Grid (PPG) and "Root Cause" analysis		Driggers	
- determine PPG risk value	6/12/93	Galgoul	Complete
- "Root Cause" Analysis			
kickoff meeting	6/14/93	Dieffenbacher	Complete
interviews	6/28/93	Dieffenbacher	Complete
final report	7/15/93	Dieffenbacher	Complete
o Unreviewed Safety Question (USQ) process		Driggers	
- USQ initial screening	6/11/93	Lehrschall	Complete

- USQ evaluation	6/16/93	Lehrschall	Complete
- hazards evaluation	6/24/93	Lehrschall	Complete
- accident credibility determination	6/24/93	Lehrschall	Complete
- accident scenario consequence analysis			
phosgene creation	7/16/93	Lehrschall	
HCl production	7/16/93	Lehrschall	
CO production	7/16/93	Lehrschall	
- controls/corrective actions determin.	7/21/93	Lehrschall	
o Distribute incident information	TBD	Rohay	
- Hanford			
- VES operations at other DOE sites			
3. INTERIM RESTART STRATEGY FOR Z-1A/Z-18		Rohay	
o Determine interim corrective actions	7/15/93	Driggers	Complete
o Provide Justification for Continued Operations (JCO)			
- determine basis for JCO	7/6/93	Driggers	Complete
- draft JCO	7/12/93	Driggers	Complete
- JCO review	7/13/93	Driggers	Complete
- presentation to WHC management	7/16/93	Johnson	
- JCO approval	7/19/93*	Driggers	
o Rev. to controlling documents			
- Pre-fire plan	6/17/93	Tuttle	Complete
- field operating procedures	7/21/93	Driggers	
- HWOP	7/23/93	Tuttle	
o Safety Meeting	7/28/93	Tuttle	
o Brief DOE-RL on restart operations	7/26/93	Rohay	
o Brief regulators on restart operations	7/26/93	Rohay	
o Z-1A/Z-18 VES Startup (1000 cfm)	7/30/93	Gale	
4. INTERIM RESTART STRATEGY FOR Z-9		Rohay	
o Determine interim corrective actions	8/9/93	Driggers	
o Provide Justification for Continued Operations (JCO)			
- determine basis for JCO	8/9/93	Driggers	
- draft JCO	8/10/93	Driggers	
- JCO review	8/12/93	Driggers	
- presentation to WHC management	8/13/93	Johnson	
- JCO approval	8/16/93*	Driggers	
o Rev. to controlling documents			
- TI-010	8/23/93	Driggers	
- Pre-fire plan	6/17/93	Tuttle	Complete
- operating procedures	8/23/93	Driggers	
- HWOP	8/23/93	Tuttle	

o Safety Meeting	8/25/93	Tuttle	
o Brief DOE-RL on restart operations	8/23/93	Rohay	
o Brief regulators on restart operations	8/23/93	Rohay	
o Z-9 VES Startup (1500 cfm, 500 cfm)	8/30/93	Gale	
5. UPGRADED VES OPERATIONS		Rohay	
o Evaluate potential system design/ engineering controls	7/15/93*	Driggers/ERA team	
- provide airflow through GAC canisters at shutdown to remove heat			
- prewet GAC before adsortion operations			
- install thermocouple trees			
deliver clean GAC to 306 building	6/16/93	Gale	Complete
site visit by 306 bldg. staff	6/22/93	Gale	Complete
develop and fabricate	6/25/93	Gale	Complete
initial testing	6/28/93	Gale	Complete
followup testing		Peters	
- install carbon monoxide monitors downstream of GACs to detect combustion	TBD	Strope	
- install HCl monitors		Strope	
- limit total carbon tetrachloride loading to reduce heat buildup			
- internal GAC water shower			
- provide extra moisture-laden ambient air through GACs during operations to remove more heat			
- utilize parallel treatment trains to split total carbon tetrachloride loading in canisters to mitigate heat buildup			
o Evaluate Alternative Treatments			
- install off-the-shelf condenser to reduce carbon tetrachloride loading on GAC			
determine cost/technical feasibility of off-the-shelf condenser	7/23/93	Cameron	
check WHC excess list			
procure and install condenser	TBD	Gale/Driggers	
recycle condensed carbon tet		Driggers/Cameron	
convert condensate to TCA and recycle		Driggers/Cameron	
load condensate into GAC/ship offsite		Rohay	
- install catalytic oxidation unit			
- use different GAC material			
- establish onsite treatment			
o Impact on existing GAC contract			
o Procurement/delivery of equipment	TBD	Gale	
o Equipment installation	TBD	Gale	
o Determine regulatory constraints on system	TBD	Cameron	

o Revision of controlling documents	TBD	
- TI-010		Driggers
- Safety Analysis		Lehrschall
- HWOP		Tuttle
- operating procedures		Driggers
o Safety Meeting	TBD	Tuttle
o Brief DOE-RL		
o Systems Startup	TBD	Gale

* Schedule assumes acceptance by management and other parties to proceed with certain engineering changes and procurement of VES equipment in parallel with the "incident analysis". Schedule may be impacted due to Safety Analysis results or management direction.

THIS PAGE INTENTIONALLY
LEFT BLANK